

---

---

# Harlequin RIP™

## CIP3 Output Plugin

Version 1.4r9





## Copyright and Trademarks

*Harlequin RIP CIP3 Output Plugin*

Version 1.4r9 February 2005

Part number: HQ-1.4.9-CIP3

Document issue: 100

Copyright © 1992–2005 Global Graphics Software Ltd.

All Rights Reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of Global Graphics Software Ltd.

The information in this publication is provided for information only and is subject to change without notice. Global Graphics Software Ltd and its affiliates assume no responsibility or liability for any loss or damage that may arise from the use of any information in this publication. The software described in this book is furnished under license and may only be used or copied in accordance with the terms of that license.

Harlequin is a registered trademark of Global Graphics Software Ltd.

The Global Graphics Software logo, the Harlequin at Heart Logo, Cortex, Harlequin RIP, Harlequin ColorPro, EasyTrap, FireWorks, FlatOut, Harlequin Color Management System (HCMS), Harlequin Color Production Solutions (HCPS), Harlequin Color Proofing (HCP), Harlequin Error Diffusion Screening Plugin 1-bit (HEDS1), Harlequin Error Diffusion Screening Plugin 2-bit (HEDS2), Harlequin Full Color System (HFCS), Harlequin ICC Profile Processor (HIPPP), Harlequin Standard Color System (HSCS), Harlequin Chain Screening (HCS), Harlequin Display List Technology (HDLT), Harlequin Dispersed Screening (HDS), Harlequin Micro Screening (HMS), Harlequin Precision Screening (HPS), HQcrypt, Harlequin Screening Library (HSL), ProofReady, Scalable Open Architecture (SOAR), SetGold, SetGoldPro, TrapMaster, TrapWorks, TrapPro, TrapProLite, Harlequin RIP Eclipse Release and Harlequin RIP Genesis Release are all trademarks of Global Graphics Software Ltd.

Protected by U.S. Patents 5,579,457; 5,808,622; 5,784,049; 5,862,253; 6,343,145; 6,330,072; 6,483,524; 6,380,951.

Other U.S. Patents Pending

Protected by European Patents 0 803 160; 0 772 934; 0 896 771.

Portions licensed under U.S. Patent No. 5,212,546; 4,941,038.

LZW licensed under U.S. Patent No.4,558,302 and foreign counterparts.

TrueType is a registered trademark of Apple Computer, Inc.

The ECI and FOGRA ICC color profiles supplied with this Harlequin RIP are distributed with the kind permission of the ECI (European Color Initiative) and FOGRA respectively, and of Heidelberger Druckmaschinen AG (HEIDELBERG).

The IFRA ICC profiles supplied with this Global Graphics Software are distributed with the kind permission of IFRA and of GretagMacbeth.

International Cooperation for Integration of Processes in Prepress, Press and Postpress, CIP4, Job Definition Format, JDF and the CIP4 logo are trademarks of CIP4.

Adobe, Adobe Photoshop, Adobe Type Manager, Acrobat, Display PostScript, Adobe Illustrator, PostScript, Distiller and PostScript 3 are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries which may be registered in certain jurisdictions.



Global Graphics Software Ltd is a licensee of Pantone, Inc. PANTONE® Colors generated by ScriptWorks are four-color process simulations and may not match PANTONE-identified solid color standards. Consult current PANTONE Color Publications for accurate color. PANTONE®, Hexachrome®, and PANTONE CALIBRATED™ are trademarks of Pantone, Inc. © Pantone, Inc., 1991.

Other brand or product names are the registered trademarks or trademarks of their respective holders.

#### US Government Use

Harlequin RIP software is a computer software program developed at private expense and is subject to the following Restricted Rights Legend: "Use, duplication, or disclosure by the United States Government is subject to restrictions as set forth in (i) FAR 52.227-14 Alt III or (ii) FAR 52.227-19, as applicable. Use by agencies of the Department of Defense (DOD) is subject to Global Graphics Software's customary commercial license as contained in the accompanying license agreement, in accordance with DFAR 227.7202-1(a). For purposes of the FAR, the Software shall be deemed to be 'unpublished' and licensed with disclosure prohibitions, rights reserved under the copyright laws of the United States." Global Graphics Software Incorporated, 5875 Trinity Parkway, Suite 110, Centreville, VA 2012.

---

---

# Contents

## **2 Introduction 2**

- Requirements 2
- Capabilities of the plugin 3
- Typical workflow 3

## **3 Software installation 3**

- Supplying passwords 5

## **4 Device configuration 6**

- Filename setup 7
- DIG comments 8
- Extents and Transforms 9
- Output file contents 13
- Coding text entries for Job Name and Sheet Name 14
- Double-sided styles 17

## **5 Routine use 18**

- Page Setup settings 18
- Producing acceptable input jobs 19

## **6 Related documentation 20**

## **7 Example output 20**



# 1

---

---

## CIP3 Output Plugin

This document describes the use of the CIP3 output plugin with the Harlequin RIP.

**Note to OEMs:** This document is presented for inclusion in end-user documentation such as a manual based upon the *Harlequin RIP OEM Manual* or for use as a supplement to that manual. You may wish to change the introduction to this document to suit the presentation you choose. (Notes like this one are not meant for onward publication to end-users. They give information of interest only to staff at Harlequin and its OEMs.)

| This document describes the CIP3 plugin version 1.4r9, for use with the Harlequin RIP version 5.3 and later versions. The plugin is available for the RIP running under the Windows NT and Windows 95 operating systems, under the UNIX operating system, and on Macintosh computers.

From version 1.4r5 the CIP3 output plugin is available under Mac OS X and Linux.

## 2 Introduction

Plugins are a way of extending the capabilities of the Harlequin RIP in a way that does not require any programming or other technical skills from the person installing the plugin. Typical plugins allow the RIP to accept jobs from various sources of input, to process the data in various ways, to report on the progress of rasterizing the image, and to provide page images in new formats, and to send the final image to output devices or interface systems.

The CIP3 plugin allows the RIP to produce Print Production Format (PPF) files as specified by a group called International Cooperation for Integration of Pre-press, Press, and Post-press (CIP3). PPF files contain information about print jobs including administrative data, information about inks and register marks, comments, and preview images.

The CIP3 specification is available on the World Wide Web, as described in Section 6 on page 20. Briefly, the group wish to provide enabling standards for applying Computer Integrated Manufacturing (CIM) techniques to printing workflows by avoiding the need for recalculation or re-entry of information. The result of this work is the Print Production Format (PPF) file specification.

In the Harlequin RIP, you can use the same RIP that generates your film or plates to create CIP3 PPF files enabling ink-keys to be set quickly and easily on press. CIP3 file generation is just as easy and automatic as generating the plates and films themselves, and using those files with your press can bring you to color far faster, reducing make-ready times and wastage, and removing the need for plate scanners.

### 2.1 Requirements

The CIP3 Configuration dialog box is large. Under the UNIX operating system, it requires a screen size of 1024 x 768 pixels — larger than any dialog box produced by the RIP itself but within the capabilities of a typical graphics screen. On all other platforms, there is a RIP dialog box larger than the CIP3 Configuration dialog box.

The CIP3 plugin has no other special requirements; its output is to file only, typically at a low resolution.

## 2.2 Capabilities of the plugin

The plugin has the following options:

- CMYK color preview images, 8 bits per pixel, separated or unseparated. Spot colors are supported, but only for separated output files. (The preview image is the starting point for calculating the ink-keys in the software that reads PPF files.)
- Uncompressed or run length encoded compressed files.
- A choice of resolution for the preview image.
- A choice of work styles for single and double-sided sheets.

Version 1.4r9 of the plugin supports the CIP3 version 2.0 specification. This is a format that all consuming applications can read. It also supports the version 2.1 and version 3.0 specifications.

## 2.3 Typical workflow

Because the purpose of the CIP3 specification is to provide PPF files that accurately predict the characteristics of a film or plate, you can expect to have pairs of page setups. In each pair, one page setup should produce the high resolution data required by your actual output device and the one for CIP3 should mimic all settings of that page setup except that it should have **Calibration** set to **(None)** and produce a lower resolution version of the image on film or plate.

In use, you should send a job twice: once to the page setup for the real device and once to the page setup using the CIP3 plugin. (Jobs sent to the CIP3 plugin run quickly because the resolution used in a PPF file is typically very low compared to the real device.)

## 3 Software installation

The plugin may be supplied as part of your standard Harlequin RIP installation media. If so, installing the RIP is sufficient to install the plugin.

If you receive separate installation media, or an updated plugin, install it using this procedure.

1. Install the RIP, if this is a new installation.
2. Exit the RIP, if you have been using it.
3. The CIP3 plugin requires the Harlequin RIP to be installed on the target machine. If the RIP is not installed then you may add it at the same time as you add the CIP3 plugin.
4. Insert the Harlequin RIP CD-ROM and access its contents. At the top level of the CD run the setup program for the operating system you are running.
5. In the Product Installer window specify the Harlequin RIP installation folder as the destination for the plugin files.
6. From the Package menu choose **Optional Plugins**, and from the Products menu choose **CIP3 Plugin 1.4r9**.
7. Click **Add** to add the plugin to the list of products to install, and click **Install** to begin copying the files from the CD.

If after selecting Install a browser dialog appears, you have selected an invalid or incorrect RIP folder. Use the browser to select the correct RIP folder and click **OK**.

If the message "Selection is not a valid RIP folder" appears, you have again selected an incorrect RIP folder. You are given another opportunity to select the correct folder. When the correct folder is selected, the plugin is installed and the "Installation complete" message appears.

8. After installing the files, close the Product Installer window and start the Harlequin RIP.

If you have correctly installed the plugin, a line similar to the following will appear in the RIP monitor when you next start up the RIP:

```
CIP3 plugin: Version 1.4r9 - Copyright (c) 1997-2005  
Global Graphics Software Ltd. All Rights Reserved.
```

To use the plugin, choose CIP3 in the **Device** list in the Page Setup dialog box. Configure the device as described in Section 4 on page 6 and choose options in the Page Setup dialog box as described in Section 5 on page 18.

**Note:** If **CIP3** does not appear as an option in the **Device** list in the Page Setup dialog, see Section 3.1.

### 3.1 Supplying passwords

Some installations of the RIP may require you to enter a password before you can use a plugin or other options such as color management. If the **CIP3** option does not appear as an option in the **Device** list in the Page Setup dialog box, follow this procedure.

When requesting the password from your supplier you may be asked to give the *serial number* of your RIP. The RIP displays this number in the main Harlequin RIP window when starting up, in the form:

**Serial number:** 1234-56

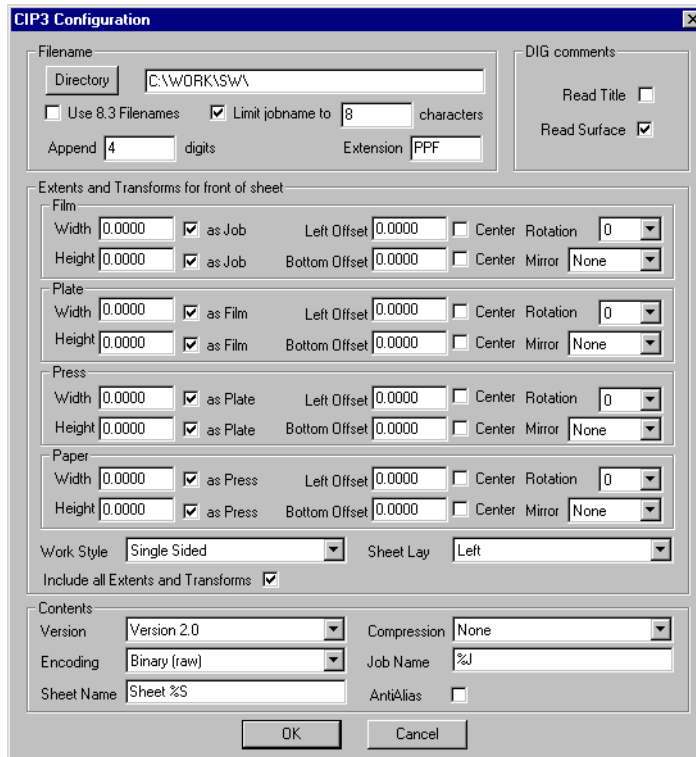
You must also tell your supplier the *platform* for which you require the password. The platform is the combination of operating system and processor type. For example, you might specify Windows NT, and Intel or Alpha processor. There are similar choices for processor type under the UNIX operating system, but not for Macintosh or Windows 95.

Once you have a password, use the **File > Configure RIP** menu option to display the Configure RIP dialog box. Click the **Extras** button in the Configure RIP dialog box to display the Extras dialog box. Select the platform-dependent entry for CIP3, and click **Add**. (For example, the entry for Windows NT, and Intel processor is `cip3.i32`, **CIP3**.) Enter the password for this option given to you by your supplier, and click **OK**.

Click **OK** in each of the Extras and Configure RIP dialog boxes.

Once the plugin is installed fully, you can choose it as an entry in the **Device** list in the Page Setup dialog box. Once you have chosen the device, you can click **Configure Device** to see the configuration dialog box shown in Figure 1.

## 4 Device configuration



**Figure 1** CIP3 file converter configuration dialog box

The controls in this dialog box fall into categories:

- Output filename setup
- Inclusion of Digital Imposition Geometry (DIG) comments
- Inclusion of extents and transforms
- Format of the output file contents

Make the settings you wish then click **OK**.

**Note:** Not all CIP3 consuming applications can read all combinations of options in a CIP3 PPF file. Choose a combination of device configuration in this dialog box and a **Style** in the Page Setup dialog box that matches the capabilities of the consuming application that you intend to use.

## 4.1 Filename setup

The settings in this section allow you to name the PPF files simply and uniquely. In all cases, the file name is based on the PostScript-language job-name, but you have control over the length of the name, an optional numerical sequence, and the file extension.

### Directory

Click the button to use a file browser to choose the directory to hold the output file.

Alternatively, type in the text field to enter the full path to the directory you want to use. This path must specify the disk name and all directories to an *existing* directory.

If you do not choose a directory, the plugin creates the files in the `sw` folder of the RIP installation that you are using.

### Use 8.3 Filenames

Select this check box to use DOS-compatible short file names. Leave this check box unselected to use long file names, upon which you can make some restrictions by selecting the remaining controls in this section.

### Limit jobname to ... characters

Select this check box to base the name of the file created on an initial substring of the jobname set in the PostScript-language file which describes the page. Use the text field to specify the maximum number of characters you want to take from the jobname, starting from the beginning of the name.

Leave this check box unselected to use all the alphabetic and numeric characters in the jobname.

### Append ... digits

Enter a number here to append a known length of numerical string to the job name in order to create a unique name for each file produced. The number is an integer starting at 0 (zero). For example, enter 3 in this field to generate numbers of the form: 000, 001, 002, and so on.

### Extension

Enter a text string to act as an extension to the file name. The default is **PDF**, but you can choose another extension if it is required by your workflow.

## 4.2 DIG comments

If DIG comments are present in incoming jobs, the controls in this section allow you to use some of the names included in these comments as parts of CIP3 comments specified in the **Contents** section of this dialog box.

Digital Imposition Geometry (DIG) comments follow a specification created and maintained by ScenicSoft, Inc. The comments are included in PostScript-language files produced by Preps from ScenicSoft and ImpoStrip from Ultimate Technographics Inc. The comments provide enhanced support for large format imagesetters using more than one imaging head.

It is safe to select these check boxes for jobs that do not contain the relevant DIG comments.

### Read Title

Select this check box to read the title given in any **%SSiDIGTitle:** comment from the incoming job. (This title may be used to set the file name for use in the **Job Name** or **Sheet Name** fields lower in this dialog box.)

Leave this check box unselected if you wish to ignore any **%SSiDIGTitle:** comment.

### Read Surface

Select this check box to read the surface given in any **%SSiDIGSurface:** comment from the incoming job. (This title may be used to set the file name for use in the **Job Name** or **Sheet Name** fields.)

Leave this check box unselected if you wish to ignore any **%SSiDIGSurface:** comment.

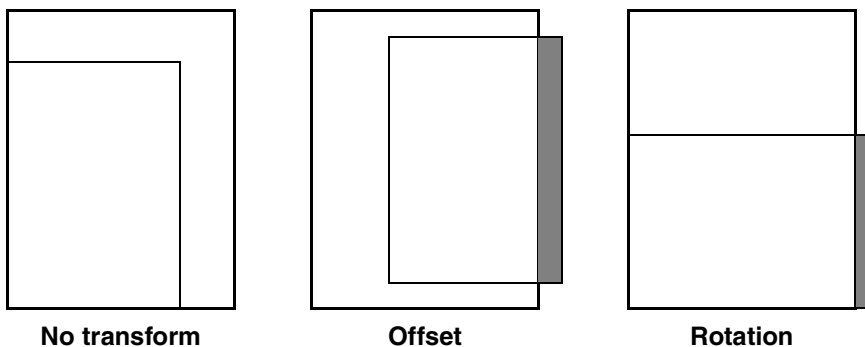
### 4.3 Extents and Transforms

There are several very similar subsections under this heading, one each for **Film**, **Plate**, **Press**, and **Paper**. You can set all of these values or leave some at the default values.

*Extents* refer to the physical area of the image. *Transforms* are the offsets, rotation, and mirroring that it is possible to apply. Depending on the choice that you make for **Work Style**, also in this section of the dialog box, there may be a back to the sheets requiring different but related transforms.

The transforms are cumulative and executed in the top to bottom order used in this dialog box. The transforms defined for **Film** are applied in moving from the raster data to the film image, the transforms for **Plate** are applied in moving from the film image to the plate, and so on.

A sufficiently big offset or inappropriate rotation can cause loss of image data, as Figure 2 shows. In each of the cases, the bold outline represents the total area of the film, and the light outline represents the image area. The shaded (gray) areas show where parts of the image are not imaged because of a transform.



**Figure 2** Transforms and possible image clipping

**Note:** The extents and transforms do not affect the raster that you can view in Roam. They are a record of how the following stages of the printing workflow should handle the raster and the physical images in order to achieve a correct product after printing, cutting, and folding.

The CIP3 PPF specification defines all geometry with respect to an origin at bottom left of the relevant coordinate system. However, the specification does not clearly define what is the “bottom left” of a plate, what is the imageable area of a press, and so on. You may encounter some conventions that are specific to the way in which various vendors have interpreted the specification.

**Note:** All Width, Height and Offset values *must* be entered in points.

#### **Width and as Job**

Select the **as Job** check box to use the width set in the job.

Alternatively, to set a fixed value, deselect the check box and enter a value in the **Width** text field. The value set here is ignored if you select the **as Job** check box.

#### **Height and as Job**

Select the **as Job** check box to use the height set in the job.

Alternatively, to set a fixed value, deselect the check box and enter a value in the **Height** text field. The value set here is ignored if you select the **as Job** check box.

#### **Left Offset and Center**

Select this **Center** check box to center the image horizontally on the film.

Alternatively, to set a fixed offset, deselect the check box and enter a value in the **Left Offset** text field. A positive value moves the image to the right. The value set here is ignored if you select the **Center** check box.

**Note:** Figure 2, page 9, shows the effect of positive values for left and bottom offsets. You can also enter negative values.

#### **Bottom Offset and Center**

Select this **Center** check box to center the image vertically on the film.

Alternatively, to set a fixed offset, deselect the check box and enter a value in the **Bottom Offset** text field. A positive value moves the image upwards. The value set here is ignored if you select the **Center** check box.

**Rotation**

Select one of the rotations available in this list. The default is 0 (zero) degrees for no rotation.

**Mirror**

Select one of the choices available in this list. The default is **None** for no mirroring, but you can choose **Horizontal** or **Vertical** for cases that require it. For example, you may require mirroring where outputting the image emulsion-down.

These controls re-occur in each of the following subsections. In each case, the process the controls are describing is the one that places the image on the item that is the title of the subsection. For example, the settings in the **Plate** subsection control how the film is treated in arriving at a position on the plate.

At the end of the **Film**, **Plate**, **Press**, and **Paper** sections, there are some controls that are more general.

**Work Style**

This control sets the production of single or double-sided sheets, and the relationship between the front and back of double-sided sheets. (See Section 4.6 on page 17 for more details.) Choose one of the entries in this list, to match the choice made during imposition and be careful of some imposition terms that have two possible meanings.

Work style	Comments
<b>Single Sided</b>	These jobs do not have backs.
<b>Sheetwise</b>	Invert paper transform left/right for the back. Swap sheet lay for back.
<b>Work &amp; Turn</b>	These jobs do not have backs. (The same plate is used for the back with the sheet turned over to maintain the same gripper or leading edge.)  Also known as: <i>Work and Flop</i> (but this name is sometimes used for other styles).

**Table 1** Work styles

Work style	Comments
Work & Tumble	<p>These jobs do not have backs. (The same plate is used for the back with the sheet tumbled over to use a different gripper or leading edge.)</p> <p>Also known as: <i>Work and Flop, Work and Roll.</i></p>
Perfecting Sheetwise	Invert paper transform top/bottom for the back. The sheet lay is the same on the back as on the front. Similar to: <i>Work and Twist</i>
Perfecting Work & Turn	These jobs do not have backs. (There are two identical plates with the plate for the back rotated by 180° on the press, relative to the plate for the front.)
Perfecting Work & Tumble	<p>These jobs do not have backs.</p> <p>Also known as: <i>Perfecting Work and Roll.</i></p>
Double Sided Web	Invert paper transform left/right for the back. The sheet lay is the same on the back as on the front. (For a web, it is more common to use the terms <i>top form</i> and <i>bottom form</i> , rather than front and back.)

Table 1 Work styles

### Sheet Lay

Choose **Left** or **Right** from this list. This choice sets the lay for the front of a double-sided sheet. The lay for the back of the sheet, if it is required, and different from the front, is determined by the **Work Style**. (The lay is the guiding edge of the paper in the press, viewed in the direction of paper flow.)

### Include all Extents and Transforms

Select this check box to include values in the PPF file for all settings in the **Extents and Transforms** section, even if they are at their default values. The default values have no effect, but the software reading the PPF files may require the settings to be present in the PPF file.

If you leave this box unselected, the PPF file includes only the values for controls that you have set explicitly. For example, if you have set values only for the **Film** and **Plate** subsections then only those values (and any defaults displayed higher in this section of the dialog box) appear in the PPF file.

## 4.4 Output file contents

**Note:** Several options in the Page Setup dialog box also affect the contents of the file.

### Version

This setting controls the CIP3 version number included in the PPF file.

The options are **Version 2.0**, **Version 2.1**, and **Version 3.0**. All consuming applications can accept version 2.0 files.

### Compression

The options are **None** and **Run length**.

**None** produces an uncompressed file. **Run length** produces a compressed file. (The compression technique is lossless so there is no effect on image quality.)

### Encoding

The options are **Binary (raw)**, **Hexadecimal**, and **ASCII 85**.

This controls the storage format of the preview images, giving various compromises between portability and file size but does not affect the image. If you want to transfer the PPF file over networks where conversion of the line-end characters within the file is possible, then you should use **ASCII 85** or **Hexadecimal**. If this is not the case, use the more compact **Binary** format.

### Job Name

Enter fixed text or a code sequence (or both) to set a value for the `CIP3AdmJobName` comment in the PPF files. Section 4.5 on page 14 describes the possible codes and their meanings. The default value is the code `%J` which inserts the job name taken from the PostScript-language job or a DIG comment if present.

**Note:** Together with the setting for **Sheet Name** the settings you make here allow the CIP3 plugin to pass information to the PPF reader software that associates the sheets with a job and to identify sheets in a double-sided job as being front or back sides.

### Sheet Name

Enter fixed text or a code sequence (or both) to set a value for the `CIP3AdmSheetName` comment in a PPF file. The default value is the code `Sheet %S` which inserts the strings: `Sheet 1`, `Sheet 2`, and so on. Section 4.5 on page 14 describes the possible codes and their meanings. See also the note for **Job Name**.

### AntiAlias

Select this box to antialias the preview image.

## 4.5 Coding text entries for Job Name and Sheet Name

Both of these text fields are coded in exactly the same way. They may include: plain text, which appears exactly as entered; with or without control sequences, which are replaced by variable text specific to the job or sheet as the job is processed.

Use the default values if you are in doubt about what you should include in these fields. The default values have been selected to be compatible with many CIP3 PPF readers. If you have problems with the defaults, please check for recommendations from the supplier of your PPF reader.

Control sequences must start with a percent character (`%`). This must be followed immediately with either of:

- A character taken from the list below
- An integer and then a character taken from the list below

There must be no spaces between the percent character, the integer (if present), and the control character itself.

The recognized control characters are:

<b>%F</b>	Inserts <b>Front</b> for the front of a two-sided sheet and <b>Back</b> for the back. All single-sided sheets are regarded as front sides.
<b>%G</b>	Inserts the signature number of the imposition. This number is always 1 unless the job contains <b>%SSiDIGSignature:</b> comments.
<b>%J</b>	Inserts the job name. This name is usually set by a PostScript-language or PDF job. If a job does not set the name, this sequence inserts the input filename instead.
<b>%N</b>	Inserts the file name of the job being processed. If <b>Read Title</b> comments has been checked in the <b>DIG comments</b> section and the job contains a <b>%SSiDIGTitle:</b> comment then this sequence inserts the value of that comment.
<b>%P</b>	Inserts the plate (surface) number, starting at 1 for the first plate in the job.
<b>%S</b>	Inserts the sheet number within the signature, starting at 1 for the first sheet in the job.
<b>%T</b>	Inserts the title description set by <b>%Title</b> in the Post-Script language job.
<b>%%</b>	Inserts a single percent character.

If you give the sequences as shown, the text inserted is the full length of a string or the required (variable) number of digits for an integer.

If you include an integer in the control sequence — for example, **%3S** — it is used to specify the length or precision of the value entered into the final string. If the result of the control sequence is a string, and that string is longer than the precision, then it is truncated after the specified number of

characters. If the result of the control sequence is an integer that has fewer digits than the precision then it will be left-padded with zeros to equal the precision.

### 4.5.1 Examples

The exact strings to enter in these fields may vary both with your workflow and with the PPF reader or readers that you intend to use.

In the following examples, the job name defined in the job is:

8476065 Master Document

In Job Name	In the PPF file	Notes
%J	8476065 Master Document	Default
%7J	8476065	
%J SIG%3G	8476065 Master Document SIG001	
%P. %J	1. 8476065 Master Document	Matches CIP3 plugin v1.18 and earlier

**Table 2** Useful Job Name values

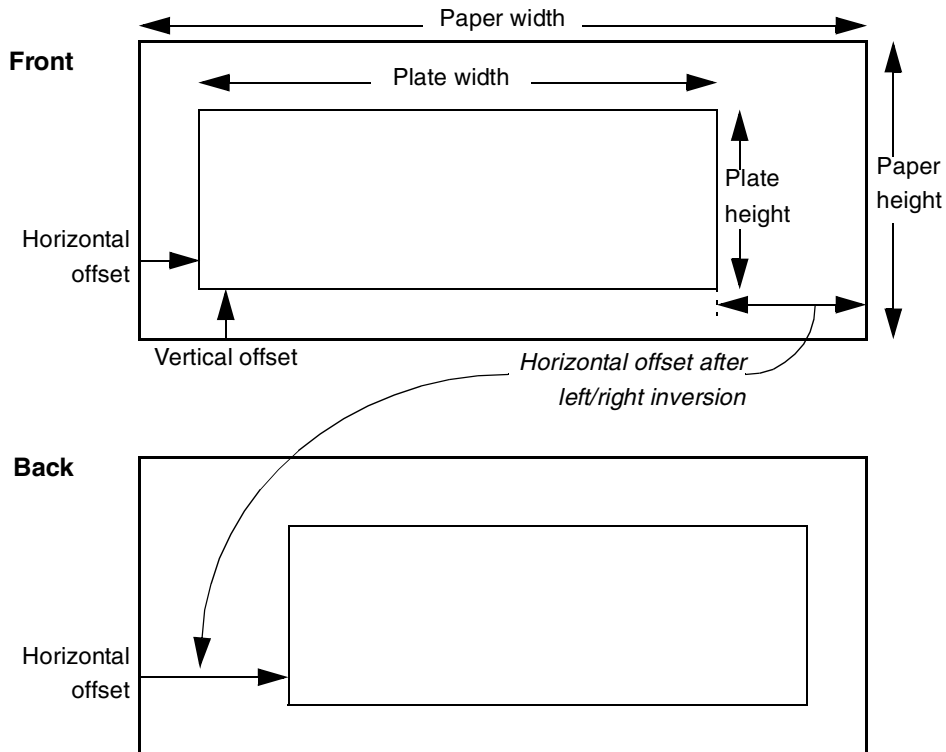
In Sheet Name	In the PPF file	Notes
Sheet %S	Sheet 1	Default
%S/%G	1/1	
%P. %J	1. 8476065 Master Document	Matches plugin v1.18 and earlier

**Table 3** Useful Sheet Name values

## 4.6 Double-sided styles

There are several ways to achieve a double-sided sheet, involving various imposition styles that may require one or two plates. The **Work Style** control allows you to set up the CIP3 plugin to suit these styles.

Whether or not the same plate is used on both the front and back of a sheet, the front to back registration must be maintained and there is frequently a need to alter the orientation or offsets for use on the back. Figure 3 shows the dimensions that can be affected by such changes. For example, left/right inversion means that the horizontal offset of the back is calculated from the values on the front as (Paper width - Plate width - Horizontal offset).



**Figure 3** Left/right inversion of offsets

## 5 Routine use

The remaining controls that you need to consider are in the Page Setup dialog box. In general, you should make the settings that you would when producing real output.

### 5.1 Page Setup settings

The default value for **Resolution** is 50.8 dpi (or the equivalent 20 dpcm and 2 dpmm). This resolution is the value suggested in the CIP3 specification referenced in Section 6 on page 20.

**Note:** This is a change from the special handling of 50.0 dpi in version 1.1r8 and earlier of the CIP3 plugin. In version 1.3r3 of the plugin and later, if you select 50.0 dpi (by typing 50 in the text field) the plugin honors that request exactly.

When producing the CIP3 file, the margins and alignment may need to match the films or plates exactly; you need to be aware of this when switching PostScript Printer Descriptions (PPDs) to generate composite color PostScript-language jobs because margins and orientation may change also. Instead you could use the **Recombine preprepared jobs** check box (in the Edit Style dialog box) so that you can use the same jobs for film or plates and CIP3 generation.

#### Style (Color generation)

The options are in the **Style** list in the **Separations, Screening & Color** section of the Page Setup dialog box:

- **CMYK Composite (Pixel)**
- **CMYK Composite (Frame)**

These choices control the layout of the data inside the CIP3 file. The CIP3 plugin will always create files with CMYK data in them, even if you send only a single separation. (The unused separations are empty, so with run length compression enabled they are very small.)

The **CMYK Composite (Frame)** setting is readable by more applications that read PPF files.

**Note:** If you use the Separations Manager (by clicking the button alongside the **Style** list), you can copy the **CMYK Composite (Frame)** style and

edit it to include spot colors either by name for specific colors or by using the existing setting (`other colors in job`) to include all spot colors found and not named elsewhere in the list. However you choose to add spot colors, set the **Print?** column for your colors to **Yes** or **Not Blank**. Take care when you do this to properly duplicate the settings in the separations style for the page setup that sends output to your real imagesetter, or you may find different separations in the real output and in the PPF file.

From CIP3 output plugin versions later than 1.4r5 you are able to change the output order of separations. The standard order is CMYK, you can however change this to suit your requirements. For example, some customers like to produce KMCY output. To change the order, drag and drop the colorant names in the upper window of the Edit Style dialog. The separations are generated in list order.

If you are sending a pre-separated job to the RIP, you can use the **Recombine pre-separated jobs** option (in the Edit Style dialog box) to recombine the separations into a composite output, so that only one CIP3 file gets produced. The CIP3 option to produce separated or unseparated PPF files still applies.

### Calibration

Choose **None** in the page setup used for CIP3. (Make your normal setting for linearization in the page setup used for output to film or plate.)

### Intended Press and Actual Press

These controls are available so that you can accurately match the page setup used for output to film or plate. The settings for CIP3 output must be the same as ones in the page setup used for output to film or plate.

## 5.2 Producing acceptable input jobs

To produce composite color PostScript-language jobs correctly, you (or the customers supplying you with jobs) must use a PPD that supports color. You can check that you are getting composite color jobs by checking the page buffers in the Output Controller, using the **Roam** button.

Similarly, you can supply jobs as any other form of input acceptable to the RIP. Note that PostScript-language and PDF jobs can be pre-separated rather than composite. Pre-separated jobs will produce one PPF file for each separation, unless you select the **Recombine pre-separated jobs** option in the Edit Style dialog box.

## 6 Related documentation

For more details about the CIP3 format, see:

- *Specification of the CIP3 Print Production Format*

This specification is available from:

<http://www.cip3.org/>

## 7 Example output

The bulk of the CIP3 output file is a preview image, included as raw binary data or in an encoded form, but the file does contain some header and trailer lines that are human readable.

Here is a simple example for a CMYK job, prepared using the **CMYK Composite (Pixel)** setting:

```
%!PS-Adobe-3.0
%%CIP3-File Version 2.0
% Generated by the Harlequin CIP3 plugin version 1.3r9

CIP3BeginSheet
  /CIP3AdmJobName (CpDem.ps) def
  /CIP3AdmSheetName (Sheet 1) def
  /CIP3AdmSoftware (Harlequin CIP3 plugin version 1.3r9) def
  /CIP3AdmCreationTime (Mon Jun 26 12:23:13 2000) def
  /CIP3AdmSheetLay /Left def
  /CIP3AdmPSExtent [596.693 843.307] def
```

```

/CIP3AdmFilmTrf [ 1 0 0 1 0 0 ] def
/CIP3AdmFilmExtent [ 596.693 843.307 ] def
/CIP3AdmPlateTrf [ 1 0 0 1 0 0 ] def
/CIP3AdmPlateExtent [ 596.693 843.307 ] def
/CIP3AdmPressTrf [ 1 0 0 1 0 0 ] def
/CIP3AdmPressExtent [ 596.693 843.307 ] def
/CIP3AdmPaperTrf [ 1 0 0 1 0 0 ] def
/CIP3AdmPaperExtent [ 596.693 843.307 ] def
/CIP3TransferFilmCurveData [ 0.0 0.0 1.0 1.0 ] def
/CIP3TransferPlateCurveData [ 0.0 0.0 1.0 1.0 ] def

/CIP3AdmSeparationNames
    [ (Cyan) (Magenta) (Yellow) (Black) ] def

CIP3BeginFront
  CIP3BeginPreviewImage
    /CIP3PreviewImageWidth 421 def
    /CIP3PreviewImageHeight 595 def
    /CIP3PreviewImageBitsPerComp 8 def
    /CIP3PreviewImageMatrix [ 421 0 0 -595 0 595 ] def
    /CIP3PreviewImageResolution [ 50.800003 50.800003 ] def
    /CIP3PreviewImageEncoding /Binary def
    /CIP3PreviewImageCompression /RunLengthDecode def

    /CIP3PreviewImageComponents 4 def
    CIP3PreviewImage ... preview data ...
  CIP3EndPreviewImage
CIP3EndFront
CIP3EndSheet
%%CIP3EndOfFile

```

**Note:** In both examples, the entry for `CIP3AdmSeparationNames` is actually a single line but appears here on multiple lines for clarity. Also `... preview data ...` is used to represent large regions of data omitted from these listings.

This following example shows a file for a job using CMYK, spot colors for RGB, and a special spot called BlueDW. This PPF file was prepared using a copy of the default CMYK `Composite (Frame)` style, edited so that (`other colors in job`) had the **Print?** column set to `Yes`.

```

%!PS-Adobe-3.0
%%CIP3-File Version 2.0
% Generated by the Harlequin CIP3 plugin version 1.3r9

```

```

CIP3BeginSheet
  /CIP3AdmJobName (rgbcmk_Dw.ps) def
  /CIP3AdmSheetName (Sheet 1) def
  /CIP3AdmSoftware (Harlequin CIP3 plugin version 1.3r9) def
  /CIP3AdmCreationTime (Mon Jun 26 12:36:09 2000) def
  /CIP3AdmSheetLay /Left def
  /CIP3AdmPSExtent [596.693 843.307] def

  /CIP3AdmFilmTrf [ 1 0 0 1 0 0 ] def
  /CIP3AdmFilmExtent [ 596.693 843.307 ] def
  /CIP3AdmPlateTrf [ 1 0 0 1 0 0 ] def
  /CIP3AdmPlateExtent [ 596.693 843.307 ] def
  /CIP3AdmPressTrf [ 1 0 0 1 0 0 ] def
  /CIP3AdmPressExtent [ 596.693 843.307 ] def
  /CIP3AdmPaperTrf [ 1 0 0 1 0 0 ] def
  /CIP3AdmPaperExtent [ 596.693 843.307 ] def
  /CIP3TransferFilmCurveData [ 0.0 0.0 1.0 1.0 ] def
  /CIP3TransferPlateCurveData [ 0.0 0.0 1.0 1.0 ] def

  /CIP3AdmSeparationNames
    [ (Cyan) (Magenta) (Yellow) (Black)
      (Red) (Green) (Blue) (BlueDW) ] def

CIP3BeginFront
  CIP3BeginPreviewImage
    /CIP3PreviewImageWidth 421 def
    /CIP3PreviewImageHeight 595 def
    /CIP3PreviewImageBitsPerComp 8 def
    /CIP3PreviewImageMatrix [ 421 0 0 -595 0 595 ] def
    /CIP3PreviewImageResolution [ 50.800003 50.800003 ] def
    /CIP3PreviewImageEncoding /Binary def
    /CIP3PreviewImageCompression /RunLengthDecode def

    CIP3BeginSeparation
      /CIP3PreviewImageComponents 1 def
      CIP3PreviewImage ... preview data for Cyan...
    CIP3EndSeparation

    CIP3BeginSeparation
      /CIP3PreviewImageComponents 1 def
      CIP3PreviewImage ... preview data for Magenta...
    CIP3EndSeparation

    % Similar separation constructs for Yellow through BlueDW

    CIP3EndPreviewImage
  CIP3EndFront
CIP3EndSheet
%%CIP3EndOfFile

```